

Serial No. 09/849,594

Docket No.: KCC-15,481

14. (Twice Amended) A combination of a first liquid-impermeable, nonwoven laminate bonded to a second liquid-impermeable material, comprising:

a plurality of ultrasonic bond points joining the first liquid-impermeable, nonwoven laminate to the second liquid-impermeable material;

wherein the bond points are aligned in a pattern including at least three parallel rows, at least one of the bond points in each of the rows equally spaced apart from at least three other bond points with the bond points in adjacent rows offset from one another, such that each bond point is within about 0.001 inch to about 0.20 inch of at least one other bond point.

27. (Twice Amended) A bonding process for bonding together two layers of liquid-impermeable material, comprising the steps of:

ultrasonically bonding the two layers together with discrete bond points aligned in at least three parallel rows, at least one of the bond points in each of the rows equally spaced apart from at least three other bond points, with the bond points in adjacent rows offset from one another; and

displacing portions of each layer of material, wherein each of the displaced portions is in contact with at least one other displaced portion.

#### REMARKS

Applicants' undersigned attorney thanks the Examiner for her comments. Applicants respectfully request reconsideration of this patent application, particularly in view of the above Amendment and the following remarks. Currently, Claims 1-10, 12-16 and 18-32 are pending.

The present invention is directed to intermittent ultrasonic bonds that create a strong, leak-proof seal. The leak-proof, or moisture-proof, seal is created when at least two layers of material are ultrasonically bonded with numerous point bonds that are spaced sufficiently close together to create a seal between the bonds. When ultrasonic bonds are used to form a bond, part of the substrate material being bonded is displaced outside of the actual bond point. In this invention, the displaced materials either contact each other, thereby blocking any passage of fluid between the bond points, or are close enough together to create a sufficiently tortuous path to

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block any passage of fluid between the bond points. Furthermore, the strength of the bond is optimized through the use of point bonds, versus a solid bond.

#### **Amendment to the Specification**

The specification has been amended at page 9, line 17 – page 10, line 2 has been amended to state that in one embodiment at least one bond point in each row is spaced an equal distance from at least three other bond points. Support for this amendment may be found in Fig. 1 and, therefore, no new matter has been added by way of this amendment. A version of the replacement paragraph with markings to show changes made is attached hereto.

#### **Amendment to the Claims**

Applicants have amended Claims 1, 14, and 27 to each include the limitations of the bond points being aligned in at least three parallel rows, at least one of the bond points in each of the rows equally spaced apart from at least three other bond points with the bond points in adjacent rows offset from one another. Support for this amendment is provided in Fig. 1 and in the replacement paragraph at page 9, line 17 – page 10, line 2. No new matter has been added by way of this amendment. A version of the claims with markings to show changes made is attached hereto.

#### **Claim Rejections - 35 USC §102**

The rejection of Claims 1-10, 12-16, and 18-32 under 35 USC §102(b) as being anticipated by Bridges et al. (U.S. Patent No. 5,624,420, hereinafter "Bridges") is respectfully traversed.

Bridges discloses a disposable undergarment having non-perforated tear lines for removing the garment from a wearer. The non-perforated tear lines include individual bond sites that are sized, shaped, spaced, and arranged geometrically to provide a desired line of weakness. The bond sites are thinned and resolidified membranes, which create a weakened zone.

For a reference to anticipate a claim, the reference must teach each and every element or limitation of the claim. Bridges does not teach each and every element or limitation of twice amended Claims 1, 14, and 27. Applicants' invention as claimed in twice amended independent Claims 1, 14, and 27 requires at least three parallel rows of bond points, at least one of the bond points in each of the rows

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equally spaced apart from at least three other bond points with the bond points in adjacent rows offset from one another.


As can be seen in Figs. 1A-1H of Bridges, at most there are three parallel rows of bond points (1E and 1F), but each row does not include at least one bond point that is equally spaced apart from at least three other bond points because the outer two rows have twice the distance between bond points as the inner row. Thus, each of the bond points in each of the outer rows is only equally spaced apart from two other point bonds and no one bond point is equally spaced apart from at least three other point bonds.

For at least the reasons presented above, Applicants respectfully submit that amended Claims 1, 14, and 27 are not anticipated by Bridges. Because Claims 2-10 and 12-13 depend from Claim 1, Claims 15-16 and 18-26 depend from Claim 14, and Claims 28-32 depend from Claim 27, these claims are also not anticipated by Bridges. Thus, Applicants respectfully request withdrawal of this rejection.

#### Conclusion

Applicants believe that this case is now in condition for allowance. If the Examiner feels that any issues remain, then Applicants' undersigned attorney would like to discuss the case with the Examiner. The undersigned can be reached at (847) 490-1400.

Respectfully submitted,

  
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**VERSION WITH MARKINGS TO SHOW CHANGES MADE  
IN THE SPECIFICATION:**

At page 9, line 17 – page 10, line 2:

-- Similarly, each bond point 10 is a distance of between about 0.001 inch (0.0025 cm) and about 0.20 inch (0.51 cm) away from at least one other bond point 10 in either a machine direction or a cross direction, or any direction therebetween. Alternatively, each bond point 10 is within about 0.0025 inch (0.0064 cm) to about 0.175 inch (0.44 cm) of at least one other bond point 10. As another alternative, each bond point 10 is shown within about 0.005 inch (0.013 cm) to about 0.15 inch (0.38 cm) of at least one other bond point 10. As shown in Fig. 1, one embodiment of the invention includes multiple parallel rows 18 of bond points 10, wherein at least one bond point 10 in each row is an equal distance away from at least three other bond points. --

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE  
IN THE CLAIMS:**

1. (Twice Amended) A leak proof seal, comprising:  
at least two layers of liquid-impermeable material at least partially positioned in overlapping relationship;  
a plurality of ultrasonic bond points bonding together the at least two layers of liquid-impermeable material;  
wherein the bond points are aligned in at least three parallel rows, [each] at least one of the bond points in each of the rows equally spaced apart from at least three other bond points, and the bond points in adjacent rows are offset from one another.

14. (Twice Amended) A combination of a first liquid-impermeable, nonwoven laminate bonded to a second liquid-impermeable material, comprising:

a plurality of ultrasonic bond points joining the first liquid-impermeable, nonwoven laminate to the second liquid-impermeable material;  
wherein the bond points are aligned in a pattern including at least three parallel rows, [each] at least one of the bond points in each of the rows equally spaced apart from at least three other bond points with the bond points in adjacent rows offset from one another, such that each bond point is within about 0.001 inch to about 0.20 inch of at least one other bond point.

27. (Twice Amended) A bonding process for bonding together two layers of liquid-impermeable material, comprising the steps of:

ultrasonically bonding the two layers together with discrete bond points aligned in at least three parallel rows, [each] at least one of the bond points in each of the rows equally spaced apart from at least three other bond points, with the bond points in adjacent rows offset from one another; and

displacing portions of each layer of material, wherein each of the displaced portions is in contact with at least one other displaced portion.

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